**Anti-hTNF-α-hlgG1**

Neutralizing human IgG1 monoclonal antibody against human TNF-α

Catalog code: htnfa-mab1

For research use only, not for diagnostic or therapeutic use

Version 19H23-NJ

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**PRODUCT INFORMATION**

**Contents:** 100 µg purified anti-hTNF-α-hlgG1 antibody, provided azide-free and lyophilized

**Target:** Human tumor necrosis factor-alpha

**Isotype:** Human IgG1

**Source:** Chinese hamster ovary (CHO) cells

**Purification:** Affinity chromatography with protein G

**Formulation:** 0.2 µm filtered solution in sodium phosphate buffer with glycine, saccharose and stabilizing agents

**Tested applications:** Neutralization of hTNF-α signaling

**Antibody resuspension**

*Note:* Ensure you see the lyophilized pellet before resuspension. Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

**Storage and stability**

- Product is shipped at room temperature. Store lyophilized antibody at -20°C. Avoid repeated freeze-thaw cycles.
- Reconstituted antibody is stable for 1 month when stored at 4°C and for 6 months when stored at -20°C. Avoid repeated freeze-thaw cycles.

**Quality control**

- Human IgG1 isotype has been confirmed by ELISA.
- The neutralization of hTNF-α signaling pathway has been confirmed using cellular assays with the HEK-Blue™ TNF-α reporter cells.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

**DESCRIPTION**

Anti-hTNF-α-hlgG1 is a neutralizing monoclonal antibody (mAb) featuring the constant region of the human IgG1 (hlgG1) isotype and the variable region of adalimumab, a fully human therapeutic mAb that targets human tumor necrosis factor-alpha (hTNF-α). TNF-α is a pleiotropic cytokine that notably induces NF-κB-mediated production of pro-inflammatory cytokines. The variable region of adalimumab blocks the interaction of TNF-α with its receptors TNFR1 and TNFR2, thereby downregulating the inflammatory responses associated with autoimmune diseases, such as rheumatoid arthritis and Crohn’s disease. The hlgG1 isotype displays a high binding-affinity for the Fc receptor on phagocytic cells, and is highly potent for Fc-mediated antibody-dependent cellular cytotoxicity (ADCC), antibody-dependent cellular phagocytosis (ADCP), and complement-dependent cytotoxicity (CDC). Anti-hTNF-α-hlgG1 was generated by recombinant DNA technology. It is produced in CHO cells and purified by affinity chromatography with protein G.

**APPLICATION**

Anti-hTNF-α-hlgG1 is a neutralizing antibody that blocks cellular activation induced by hTNF-α. The concentration of antibody required to neutralize hTNF-α activity is dependent on the cytokine concentration, cell type and growth conditions.

**Neutralization assay**

InvivoGen has determined the concentration range for this antibody to block recombinant hTNF-α signaling using HEK-Blue™ TNF-α cells. These cells are HEK293 cells stably expressing an NF-κB-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. Briefly, recombinant hTNF-α is incubated with increasing concentrations of anti-hTNF-α-hlgG1 for 30 minutes prior to the addition of HEK-Blue™ TNF-α cells. After overnight incubation, the neutralization of hTNF-α signaling by anti-hTNF-α-hlgG1 is determined by assessing SEAP activity in the culture supernatant using QUANTI-Blue™ Solution, a SEAP detection medium. QUANTI-Blue™ Solution turns from pink to blue in the presence of SEAP. Thus, the neutralization of hTNF-α signaling by the anti-hTNF-α-hlgG1 can be assessed by the naked eye or by reading the OD at 620-655 nm with a spectrophotometer.

**RELATED PRODUCTS**

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<td>Anti-hTNF-α-hlgA2</td>
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<td>Anti-β-Gal-hlgG1</td>
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<td>HEK-Blue™ TNF-α Cells</td>
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<td>HEK-Dual™ TNF-α Cells</td>
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<td>QUANTI-Blue™ Solution</td>
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**TECHNICAL SUPPORT**

InvivoGen USA (Toll-Free): 888-457-5873
InvivoGen USA (International): +1 (858) 457-5873
InvivoGen Europe: +33 (0) 5-62-71-69-39
InvivoGen Hong Kong: +852 3622-3480
E-mail: info@invivogen.com